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**Ferguson et al.**

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(54) **SYSTEMS AND METHODS FOR DETERMINING WHETHER A DRIVING ENVIRONMENT HAS CHANGED**

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(52) **U.S. Cl.**  
USPC ..... **701/301; 340/436; 701/23**

(58) **Field of Classification Search**  
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See application file for complete search history.

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(57)               **ABSTRACT**

A autonomous driving computer system determines whether a driving environment has changed. One or more objects and/or object types in the driving environment may be identified as primary objects. The autonomous driving computer system may be configured to detect the primary objects and/or object types, and compare the detected objects and/or object types with the previous known location of the detected object and/or object types. The autonomous driving computer system may obtain several different metrics to facilitate the comparison. A confidence probability obtained from the comparison may indicate the degree of confidence that the autonomous driving computer system has in determining that the driving environment has actually changed.

**20 Claims, 16 Drawing Sheets**

